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Report to the Honorable Ron Wyden U.S. Senate

**April 2002** 

INTERCITY PASSENGER RAIL

Amtrak Needs to Improve Its Decisionmaking Process for Its Route and Service Proposals



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# United States General Accounting Office Washington, DC 20548

April 12, 2002

The Honorable Ron Wyden United States Senate

Dear Senator Wyden:

The National Railroad Passenger Corporation (Amtrak) is the nation's intercity passenger rail operator. In recent years, facing the continuing deterioration of its financial condition and its attempt to eliminate its need for federal operating assistance by December 2002, Amtrak undertook a number of actions intended to improve its financial condition. Among these actions were changes in its routes and services. Starting in 1995, Amtrak began reducing service and eliminating routes to reduce costs, although this strategy was ultimately unsuccessful. In December 1999, Amtrak's board of directors shifted its route and service strategy toward planning to implement new routes and expand services (called the Network Growth Strategy) on the freight railroad tracks over which Amtrak operates. It estimated that this expansion, involving 15 routes, would yield about \$66 million in net financial benefits through fiscal year 2002, primarily from expanding its mail and express business, and help Amtrak move toward operational self-sufficiency.

In response to your interest, we are reporting on (1) the status of the Network Growth Strategy, (2) Amtrak's estimates of expected mail and express revenue, and (3) Amtrak's success in obtaining freight railroads' agreement to allow it to expand service over their tracks. To carry out our work, we reviewed documents describing the Network Growth Strategy, among other things. We also reviewed Amtrak's financial information used to generate route and service actions. We discussed the proposed Network Growth Strategy actions with officials from Amtrak, the Department of

<sup>&</sup>lt;sup>1</sup>In December 1994, at the direction of the administration, Amtrak established the goal of eliminating its need for federal operating assistance by December 2002 (called "operational self-sufficiency"). This goal became a requirement under the Amtrak Reform and Accountability Act of 1997.

<sup>&</sup>lt;sup>2</sup>Route actions can extend, truncate, launch, or close routes. Service changes generally increase or decrease the frequency with which trains run on a route.

<sup>&</sup>lt;sup>3</sup>Express is the transportation of higher-value, time-sensitive merchandise, such as food and automobile parts. This plan also included actions to improve efficiencies, such as redeploying cars and locomotives among routes.

Transportation, and several freight railroads over which Amtrak operates. In February 2002, after we completed our work, Amtrak estimated that it would need more than twice the amount of federal appropriations (\$1.2 billion for fiscal year 2003) than it had received on average over the past 3 years to retain its route network. We did not assess the reasonableness of this estimate.

#### Results in Brief

Amtrak has not been successful in implementing its Network Growth Strategy. About 2 years after announcing it, Amtrak has only implemented three routes, one of which was later cancelled. Nine routes were cancelled without being implemented. Amtrak still plans to implement the remaining three routes, although later than planned. Typically, more than one reason—such as overestimation of express revenue and inability to reach agreement with freight railroads over various aspects of implementing the proposals—contributed to the cancellation of any single proposed route or service action.

Increased mail and express revenues were the cornerstone of the Network Growth Strategy. However, Amtrak overestimated the mail and express revenue it expected to obtain. Amtrak's assessment of the \$66 million in net financial benefits it expected to obtain was speculative because it was not based on a rigorous analysis of the express business that it might expect to receive. According to Amtrak, this overestimation occurred because (1) it had no empirical basis for its revenue estimates and (2) express shippers were reluctant to enter into contracts for service that did not yet exist. Six of the planned route actions were cancelled in part because Amtrak overestimated the mail and express revenues associated with these routes. According to Amtrak, it has since revised its revenue estimating process to focus more on determining existing customers' shipping needs, assessing these needs in light of current economic trends, and evaluating Amtrak's ability to meet these needs given existing train capacity.

For the most part, Amtrak was not able to reach agreement with freight railroads over whose tracks it would operate. Amtrak told us that it expected that freight railroads would provide capital funds needed to implement some routes, which the freight railroads were not inclined to do. Freight railroads were also concerned about (1) Amtrak's plans to operate additional trains in areas that were already congested, (2) Amtrak's plans to carry express merchandise that might compete with their own business, and (3) compensation that Amtrak would pay them for use of their tracks. Even though operating over freight railroad tracks was

a crucial component to the Network Growth Strategy's success, Amtrak did not obtain a full understanding of freight railroad concerns before deciding to implement the strategy and before announcing it to Congress. Amtrak cancelled six routes, in part, because it could not reach agreement with freight railroads over these issues (including four routes that were cancelled in part because of the overestimation of mail and express revenues). We are making a recommendation to improve Amtrak's process for making future route and service decisions.

In commenting on a draft of this report, Amtrak agreed with our presentation of the reasons that it overestimated mail and express revenue. Amtrak disagreed with our assessment that it was largely unsuccessful in obtaining freight railroads' agreement with its strategy because it did not fully understand significant implementation concerns that freight railroads might have had before it decided to implement the Network Growth Strategy. We have clarified our report and revised our recommendation to make it more useful to Amtrak. The Department of Transportation generally agreed with the conclusions of our draft report.

### Background

Amtrak was established by the Rail Passenger Service Act of 1970, after the nation's railroads found passenger service unprofitable. It operates a 22,000-mile passenger rail system over 43 routes. (See fig. 1.) Amtrak owns 650 miles of track, primarily in the Northeast Corridor, which runs between Boston, Massachusetts, and Washington, D.C. It operates the remainder of its routes over tracks owned by freight railroads and pays these railroads for this access. From fiscal year 1971 through 2002, the federal government provided Amtrak with about \$25 billion in federal operating and capital assistance, or an average of \$807 million annually (in nominal dollars).

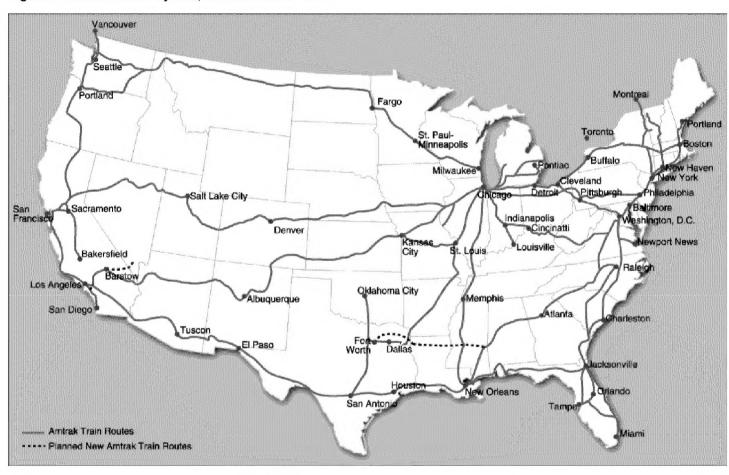


Figure 1: Amtrak's Route System, as of December 2001

Source: Amtrak.

Amtrak's financial condition has been deteriorating and, in 2001, it experienced its largest net loss (revenues less expenses) ever of about \$1 billion. In fiscal year 2001, only one of Amtrak's 43 routes made enough revenue to cover its operating costs—the Metroliner/Acela Express service on the Northeast Corridor (\$51 million). The other 42 routes had operating losses ranging from about \$600,000 on the Vermonter (service

<sup>&</sup>lt;sup>4</sup>This amount is measured on a cash basis—that is, revenues less cash expenses. Depreciation is not included. Another route, the Heartland Flyer between Texas and Oklahoma, made a profit of \$600,000 primarily because the state of Oklahoma provided Amtrak with \$4.6 million, or about 80 percent of the route's total revenue.

between Washington, D.C., and Vermont) to \$71.5 million on the Northeast Direct (generally service between Virginia and Massachusetts). (See app. I for the financial performance of all Amtrak routes.)

Amtrak has changed its general approach to route and service actions over time, from attempting to improve its financial performance by cutting service to attempting to achieve the same result by increasing service. For example, in 1995, Amtrak eliminated 9 routes, truncated 3 routes, and changed the frequency of service on 17 routes. These actions were intended to cut costs by about \$200 million while retaining 90 percent of revenues and 85 percent of passengers. Amtrak said the presumption was that passengers would use other trains to meet their travel needs, allowing it to retain most of its ridership and revenue. Although initially the route cutting actions had some financial success, subsequent financial results were below expectations because (1) management did not cut costs as planned, (2) less-than-daily service caused less efficient equipment usage and other unforeseen problems, and (3) passengers were no longer adjusting their travel plans to fit Amtrak's new less-than-daily schedules.

In 1998, Amtrak switched its strategy to increase revenues by expanding service. It used a market-based approach to identify the market for intercity passenger rail service. To do so, it used market research and computer-based models to determine the potential ridership, revenue, and costs of proposed route and service actions. According to Amtrak, this approach constituted a significant improvement in its route evaluation process because it represented the first comprehensive analysis of Amtrak's route system, and the first attempt to apply rigorous financial analyses and modeling techniques to the design of Amtrak's national network.

The Network Growth Strategy was the first product of the market-based network analysis project that Amtrak initiated in October 1998 to address route evaluation deficiencies. The intent of the market-based network analysis was to (1) develop the financial tools that Amtrak needed to perform reliable and objective analyses of route and service changes; (2) help Amtrak achieve operational self-sufficiency by December 2002 by

<sup>&</sup>lt;sup>5</sup>It also launched four new routes and reinstated one route. See app. II for a list of route actions for the period from 1995 through 2001.

<sup>&</sup>lt;sup>6</sup>U.S. General Accounting Office, *Intercity Passenger Rail: Financial Performance of Amtrak's Routes*, GAO/RCED-98-151 (Washington, D.C.: May 14, 1998).

identifying route and service changes that, if implemented expeditiously, would produce positive financial impacts before the statutory deadline; and (3) express Amtrak's vision of how its national network could be enhanced and improved.

In December 1999, Amtrak's board of directors adopted the Network Growth Strategy as part of Amtrak's strategic business plan. The strategy consisted of 15 planned route and service actions, the majority involving the expansion of service. (See app. III.) Amtrak predicated the growth strategy on the acquisition of significant new revenue from hauling mail and express cargo and estimated that it would result in \$65.6 million in net revenue through fiscal year 2002. In February 2000, Amtrak announced to Congress that it was going to implement the 15 routes in the Network Growth Strategy.

## Status of the Growth Strategy

Amtrak has been unsuccessful in implementing its Network Growth Strategy. About 2 years after announcing the Network Growth Strategy, Amtrak has cancelled 9 of the 15 planned route actions without implementing them. Amtrak implemented three route actions, although it cancelled one of these in September 2001. Finally, Amtrak plans to proceed with 3 other route actions, although their implementation will be at least 1 or 2 years later than originally planned. (See table 1.) According to Amtrak, the capital funds for one of the projects in planning (Silver Service restructuring in Florida) were frozen on February 1, 2002, in a company-wide effort to reduce use of cash. (In all, Amtrak cancelled nine routes without implementing them. Some routes were cancelled for more than one reason.)

<sup>&</sup>lt;sup>7</sup>See app. IV for a description of how Amtrak evaluates route and service proposals and app. V for a description of the models Amtrak uses to estimate route-related ridership, revenues, and costs.

<sup>&</sup>lt;sup>8</sup>Typically more than one reason led to the decision to cancel a route. For example, some routes were cancelled in part because Amtrak was not able to secure the mail and express business it planned and in part because it could not reach agreement with freight railroads over who would pay for capital improvements or about compensation for Amtrak operating its trains over freight railroad tracks.

Name	Planned start of service	Status
Hiawatha (extension)	Spring 2000	Cancelled
Lake Cities	Spring 2000	Cancelled
Chicago-Janesville, Wisconsin (Lake Country Limited)	Spring 2000	Implemented in 2000, cancelled in 2001
Skyline (Manhattan Limited)	Summer 2000	Cancelled
Silver Meteor extension to Boston	Summer 2000	In planning
Crescent Star	Summer 2000	In planning
Aztec Eagle	Summer 2000	Cancelled
Texas Eagle (restore daily service)	Summer 2000	Implemented in 2000
Twilight Limited	Fail 2000	Cancelled
Luxury Transcontinental	Fall 2000	Cancelled
International (reroute)	Fall 2000	Cancelled
Chicago-Des Moines (Hawkeye)	Fall 2000	Cancelled
Silver Service restructuring in Florida (including service on Florida East Coast Railway)	Fiscal year 2001	In planning
Sunset Limited (reroute in Texas)	Fiscal year 2002	Cancelled
Kentucky Cardinal extension	Unspecified	Implemented in 2001

Source: GAO's analysis of Amtrak's data.

## Amtrak Overestimated Expected Mail and Express Revenue

Amtrak told us that it cancelled six of the Network Growth Strategy routes before they were implemented, in part, because it overestimated expected increases to mail and express revenue under the Network Growth Strategy. Amtrak estimated that this expected increase would improve Amtrak's bottom line by \$65.6 million through fiscal year 2002. Specifically, it estimated that mail and express revenues would exceed costs by \$68.2 million, offsetting a loss of \$2.6 million from expanded passenger operations. Most of the revenue increase was expected to come from new express business. This expanded mail and express traffic did not materialize and Amtrak's revised plans have reduced expected Network Growth Strategy-associated mail and express revenue by about half—from \$271 million to \$139 million (a \$132 million reduction).

Amtrak said that there were several reasons why this overestimation occurred. The current president of Amtrak's mail and express unit told us that Amtrak expected to substantially expand its route system to generate this revenue and to begin running longer trains mostly filled with express traffic. However, he said that at the time Amtrak made its mail and express

revenue estimates, it gave little thought to whether such an expansion was feasible—that is, whether Amtrak could likely capture this business or whether freight railroads that own the tracks would agree to Amtrak's expansion plans. According to Amtrak, it did not have a rigorous approach to estimating expected express business. Amtrak officials told us that, until recently, Amtrak estimated express revenue largely on the basis of an analysis of a database of commodities being shipped nationally. Amtrak estimated the portion of this business that it thought it could obtain. An Amtrak official said that it now focuses more on determining existing customers' shipping needs, assessing these needs in light of current economic trends, and evaluating Amtrak's ability to meet these needs given existing train capacity. Finally, Amtrak officials told us that express shippers were reluctant to enter into contracts for service that did not yet exist.

Amtrak officials also told us that the company did not know route-by-route costs for its mail and express program when it announced its Network Growth Strategy. This is because Amtrak has never separately identified these costs. Rather, it has integrated these costs into the overall financial results of its intercity strategic business unit. Knowing these costs was important because Amtrak expected that the expansion of mail and express service would produce the revenue needed to make its route expansion profitable. Not until 2000 did Amtrak begin efforts to separately identify mail and express costs and develop separate mail and express financial information. According to Amtrak, in October 2001, it began producing separate profit and loss statements for its mail and express business. However, an Amtrak official said the corporation still has a long way to go in producing reliable mail and express financial information and in understanding the true cost of this business.

<sup>&</sup>lt;sup>9</sup>The president of Amtrak's mail and express unit told us that Amtrak has recently begun time and motion studies at certain terminals to better understand the true costs of mail and express activities.

Amtrak Encountered Substantial Difficulties in Expanding Service Over Freight Railroad Tracks Amtrak could not implement its Network Growth Strategy unless it reached agreement with freight railroads over funding for capital improvements<sup>10</sup> (such as upgrading tracks and signals to improve safety and support higher-speed passenger operation) and access to freight railroads' track. Quick agreement was necessary because Amtrak wanted to implement the new routes and services to help it reach operational self-sufficiency by December 2002. Amtrak encountered substantial difficulties in gaining freight railroad agreement to allow Amtrak to expand service over freight railroad tracks. This difficulty in reaching agreement contributed, in part, to Amtrak canceling six of its planned routes.

Amtrak planned to operate the 15 Network Growth Strategy routes over freight railroad tracks, including the transportation of mail and express as authorized by law. However, Amtrak was largely unable to gain freight railroads' agreement. Such agreement was critical to the implementation of Amtrak's strategy. Freight railroads are required by law to allow Amtrak to operate over their tracks and to give Amtrak's trains priority over their own. In addition, freight railroads are required to charge Amtrak the incremental cost—rather than the full cost—associated with the use of their tracks. These amounts are negotiated by Amtrak and the freight railroads. Federal law also gives Amtrak the authority to carry mail and offer express service. These mandates result in an ongoing tension between Amtrak and freight railroads for several reasons. One reason is that accommodating passenger trains affects freight railroads' ability to serve their customers and earn a profit. Second, accidents involving passenger trains may create liability issues for freight railroads. Third, freight railroads believe that they are not fully compensated for providing this service. Finally, Amtrak's express business may compete with freight railroads' business and Amtrak may be able to offer lower rates than freight railroads, everything else being equal, because Amtrak only has to pay freight railroads the incremental, rather than the full cost, of operating on freight railroad tracks.

According to Amtrak, for some proposed actions, such as increasing service to daily frequency, reaching agreement with freight railroads is not difficult because the freight railroads' infrastructure can support additional trains and the host freight railroad may already be used to having Amtrak operate along certain routes. In other cases—such as

 $<sup>^{10}</sup>$ In more limited circumstances Amtrak approached states about contributing capital funds.

where substantial capital improvements are needed or where service is to be initiated over tracks that are operating at or near capacity, reaching an agreement might be more difficult, especially where Amtrak expects freight railroads to pay for some or all of the improvements.

Amtrak officials told us that they met with senior freight railroad officials in November and December 1999—before its board of directors approved the Network Growth Strategy—to tell them of Amtrak's plan for expanded service. Amtrak officials stated that freight railroads did not then express opposition to proposed expanded routes and services. According to Amtrak, these were high-level discussions at the president/chief executive officer level, during which the railroad executives agreed to entertain more specific proposals. According to Amtrak, it met again with officials from each railroad, generally in January or February 2000, to outline specific route proposals. According to an Amtrak official, Amtrak discussed the proposed route and/or service actions and sought freight railroads' overall reaction to the proposals. He said that, in some cases, freight railroads identified issues such as the need to upgrade track. However, generally freight railroads said that they needed to further analyze the proposals to determine their likely effect, with more detailed discussions to be held at later dates. Freight railroad officials told us that the initial and subsequent meetings focused primarily on the concept of providing new services rather than identifying whether there might be aspects of the proposals that would be easy or difficult to resolve. 11

While Amtrak recognized that capital improvements would be needed on freight railroads' tracks to implement eight Network Growth Strategy routes, it did not include capital investment requirements or the source of these funds in its route evaluations until after it had decided to implement the action. An Amtrak official said that considering capital investment requirements any earlier would not be useful since, if capital costs were factored in, route proposals would appear to be unprofitable and not be considered further. As a result, Amtrak limited its analysis to whether revenues are expected to exceed operating costs. Amtrak followed this approach despite the fact that some route actions cannot be

<sup>&</sup>lt;sup>11</sup>An official from Norfolk Southern Corporation said that his railroad did have detailed discussions with Amtrak in early 2000. However, he said that the only discussion about capital investments involved low-cost items.

 $<sup>^{\</sup>rm 12}\text{Amtrak}$  does consider capital needs when high-speed rail corridors are involved. See app. V

implemented—and its operating losses reduced—unless capital is available.

It was not until after Amtrak decided to implement the Network Growth Strategy in December 1999 and announced it to Congress that it began to develop an understanding of the capital investments needed to implement the route and service actions and other implementation issues critical to gaining freight railroad agreement. For example, it was not until spring 2000 that Amtrak learned from the Union Pacific Railroad that it might cost about \$40 million to implement the Crescent Star (service between Meridian, Mississippi, and Dallas/Fort Worth, Texas). A Union Pacific official told us that his railroad was not willing to share the costs of this investment with Amtrak, nor was it willing to help Amtrak finance it over time. He said that capital investment had not been discussed with his railroad prior to this time.

Freight railroads were also concerned about having a competitor on their tracks. All four of the freight railroads we contacted that would have been affected by the Network Growth Strategy generally acknowledged Amtrak's statutory authority to operate mail and express business. However, all expressed concern about Amtrak's becoming a competitor for their freight business. This concern was heightened by Amtrak's plans to begin running large numbers of express cars on their trains as it expanded its mail and express business. This concern contributed to Amtrak's decision to cancel the Skyline service. A Norfolk Southern official said his company did not want Amtrak to solicit business on this route that was similar to its own freight business. Other freight railroads we contacted were similarly wary of Amtrak's plans to use its route and service expansion to increase express business that could potentially compete with their own.

In addition, Amtrak did not identify potential operational problems that could be encountered, such as whether capacity constraints would be important. A good illustration is Amtrak's planned Crescent Star service. This service, planned for implementation in summer 2000 over Union Pacific Railroad and Norfolk Southern lines, has not yet come to fruition.

<sup>&</sup>lt;sup>13</sup> Materials supplied to Amtrak's board of directors for its use in considering the adoption of the Network Growth Strategy indicated that capital improvements would likely be needed for portions of six of the proposed routes, including the Crescent Star. However, the material did not indicate the amount of capital that would be needed or how significant availability of capital was to the implementation of the proposals.

According to a Union Pacific official, the company could not reach agreement with Amtrak, in part, because the planned routing would have worsened congestion on the line. In addition, a Norfolk Southern official told us that the rail infrastructure in Meridian would not support passenger train switching operations without serious interference with freight trains. As a result of these operational problems and because of funding problems, the routing of this still-to-be-implemented service has since shifted to another railroad. The proposed Twilight Limited faced similar problems. According to CSX Transportation officials, this service could have encountered significant line capacity and scheduling problems west of Albany, New York. Finally, a Union Pacific official told us that the Aztec Eagle (service from San Antonio to Laredo, Texas) could have created capacity problems because it would have utilized Union Pacific's primary route to Mexico. The service of the plant of the plan

Amtrak officials agreed that routing of the Crescent Star was shifted to another railroad because of disagreements with Union Pacific. An Amtrak official said Union Pacific was initially receptive to proposed route and service actions but turned negative when plans became more specific. Amtrak officials also agreed infrastructure improvements were necessary in Meridian, Mississippi, but believed these were not insurmountable problems. Amtrak officials also did not believe there would be significant problems with the Twilight Limited because the proposed service was to replace existing trains in both New York and Michigan.

In other instances, Amtrak was not able to reach agreement with freight railroads on compensation for track access, especially for trains with additional express traffic. Freight railroads often receive additional compensation for handling Amtrak trains over a certain length and/or for cars carrying express business. Issues of compensation contributed to the cancellation of at least one route action—the Skyline. This route—establishing service between Chicago and New York City via Pennsylvania—involved Norfolk Southern. Norfolk Southern officials said they were willing to work with Amtrak on establishing this service and had even reached agreement with Amtrak about the operating arrangements for this train. (The train was to be handled similarly to a regular freight

<sup>&</sup>lt;sup>14</sup>According to Amtrak officials, the Crescent Star service has not been implemented because of continuing negotiations over the collateral requirements of a federal loan.

<sup>&</sup>lt;sup>15</sup>A Union Pacific official also commented that Amtrak could have encountered Customs Service issues on this route.

train, including operating at 60 miles per hour—a speed closer to freight train speed.) However, Norfolk Southern largely attributed the demise of this route action to the inability to reach agreement with Amtrak over the compensation to be paid for track access and additional express business.

#### Conclusions

Amtrak's Network Growth Strategy has been unsuccessful because it overestimated (1) revenues expected from new mail and express service and (2) its ability to reach agreement with freight railroads over capital funding and other implementation issues. Amtrak said that it has improved it revenue estimation process. However, reaching agreement with freight railroads will always be a major challenge when Amtrak attempts to expand its business in areas that are operating at or near capacity, when the expansion appears to pose competition for freight railroads, or when freight railroads are expected to make capital investments to help implement the routes. We believe that, in any future major route and service expansions predicated on improving Amtrak's financial condition, Amtrak's decisionmaking process needs to more explicitly reveal the risks associated with successful implementation.

# Recommendation for Executive Action

We recommend that, for any future major route and service proposals, the president of Amtrak disclose to Amtrak's board of directors any significant risks that could impair the successful implementation of the planned actions and its plans to ameliorate those risks. These potential risks include the expected ability to obtain capital funding and reach agreement with freight railroads to operate over their tracks.

# Agency Comments and Our Evaluation

We provided a draft of this report to Amtrak and to the Department of Transportation for their review and comment. Amtrak disagreed with the conclusions we reached about the benefits that might have been achieved through discussing its strategy with its key partners more substantively before—rather than after—deciding to expand its operations over freight railroad tracks. Amtrak provided its comments during a meeting with the acting vice president for government affairs and others and in a subsequent letter. (See app. VI.) The department generally agreed with the report's conclusions via an e-mail message.

In commenting on a draft of this report, Amtrak agreed with our presentation of the reasons that it overestimated mail and express revenue. Amtrak also stated that a major theme of our report was that Amtrak should have delayed in communicating with Congress the route and service changes proposed in February 2000 to allow time for

additional analysis and negotiations with freight railroads. By so doing Amtrak would have proposed considerably fewer new services and would have been more successful in implementing its proposals. We are not suggesting that Amtrak should have delayed announcing the Network Growth Strategy. Rather, our work clearly illustrates the need for Amtrak to perform due diligence to understand the likely positions of key stakeholders—whose cooperation is essential to successful route and service expansion—before, rather than after, committing itself to implementing them. However, we believe that Amtrak's not examining more closely the capital improvements needed to implement their route proposals and whether freight railroads would likely agree to them were significant flaws in Amtrak's strategy. We agree with Amtrak's characterization of our opinion that, if it had a better understanding of the concerns of key stakeholders, it might not have proposed all of the resulting route actions. We would have viewed a decision to implement fewer or different route actions each with a greater likelihood of being successfully implemented, rather than a larger number of speculative proposals, as sound business judgment because it would have increased the likelihood that Amtrak could have realized operating profits and moved closer to the goal of reaching operational self-sufficiency. During our work, we received conflicting information about Amtrak's early interaction with freight railroads. As a result of our meeting with Amtrak, we discussed this topic again with freight railroads and Amtrak and revised this report to better show this early interaction.

Amtrak also stated that (1) it needed to act quickly to reach operational self-sufficiency within 3 years, (2) the purpose of the Network Growth Strategy was to implement route and service changes that would more than cover their operating costs and therefore contribute to achieving operational self-sufficiency, and (3) not every route and service change requires lengthy negotiations. Regarding Amtrak's first point, we agree that there was immense pressure on Amtrak to become operationally selfsufficient. However, we believe that this pressure made it even more important for Amtrak to conduct the due diligence needed before it decided to move ahead. Without an understanding of the likelihood that freight railroads would be receptive to Amtrak's plans and that Amtrak could find the capital funds needed to implement these changes, Amtrak had little basis to expect that the route and service proposals it made could actually be implemented expeditiously so as to help reduce Amtrak's need for federal operating subsidies. Amtrak appeared to tacitly acknowledge the necessity of doing so, at least where capital funding is an issue, when it stated in its comments: "[T] he growing capacity constraints on many key lines mean that freight railroads can, not infrequently,

demand large infusions of capital from passenger train operators to accommodate additional trains." Regarding Amtrak's second point, we agree that Amtrak's goal was to implement routes in which revenues exceeded operating costs. It was not our intention to suggest that Amtrak should have only decided to implement routes that covered their capital costs too. We have revised our recommendation to remove such an impression. Regarding Amtrak's third point, we agree that some proposed route and service changes may be implemented easily and have revised our recommendation to more explicitly recognize this condition.

In our meeting with Amtrak officials, Amtrak disagreed with the statement in our draft report that it had poor information on interconnectivity (revenues from passengers taking more than one train to reach their final destinations). Although this comment conflicts with statements made by Amtrak during our work, we acknowledge that Amtrak did have data on interconnectivity at the time it was performing its market-based network analysis. Accordingly, we have deleted references to interconnectivity in this report.

Finally, Amtrak believes that we did not sufficiently recognize the market-based analysis framework was a significant step forward in Amtrak's ability to analyze the market potential for its services. We agree that the market-based approach was a significant step forward for Amtrak. However, the approach's usefulness was ultimately undermined by Amtrak's reliance on speculative data on expected express business and unrealized assumptions that the route and service changes could be implemented quickly and easily. We have added information to this report to better portray the differences between the market-based analysis framework and Amtrak's previous approach. We also made a number of other revisions throughout this report to better portray the extent of Amtrak's interactions with freight railroads and where limits to the interaction led to implementation problems. We also made changes, where appropriate, to this report based on our meeting with Amtrak.

The associate administrator for railroad development at the Federal Railroad Administration within the Department of Transportation stated that the department agreed that Amtrak needs better information on which to base its route and service actions. In particular, the department agreed with our fundamental conclusions that (1) Amtrak needs to undertake earlier negotiation over access-related issues for new services and (2) until recently, Amtrak senior management incorrectly assumed that it had credible information on mail and express revenues and, in particular, costs.

## Scope and Methodology

Our work focused on route and service actions that Amtrak considered under its market-based approach and Network Growth Strategy. To understand the market-based approach and the Network Growth Strategy, including its approach to estimating mail and express revenues and collaborating with freight railroads, we reviewed documents describing the market-based approach, how it works, and the models used for financial evaluation. We also reviewed studies done by others to identify potential limitations to the market-based approach and discussed these limitations with Amtrak and Department of Transportation officials. We did not independently evaluate the market-based approach or its models. As part of our work, we identified route and service actions Amtrak has taken since 1995 and the current status of the Network Growth Strategy. Finally, we discussed Network Growth Strategy route and service actions with officials from Amtrak, four major railroads that would have been affected had the Network Growth Strategy been fully implemented (the Burlington Northern and Santa Fe Railway Company; CSX Transportation, Inc.; the Norfolk Southern Corporation; and the Union Pacific Railroad Company), and the state of Florida. We conducted our work from July 2001 to April 2002 in accordance with generally accepted government auditing standards.

As arranged with your office, unless you publicly announce its comments earlier, we plan no further distribution of this report until 30 days after the date of this letter. At that time, we will send copies of this report to congressional committees with responsibilities for intercity passenger rail issues; the acting president of Amtrak; the secretary of transportation; the administrator, Federal Railroad Administration; and the director, Office of Management and Budget. We will also make copies available to others upon request. This report will also be available on our home page at http://www.gao.gov.

If you or your staff have any questions about this report, please contact either James Ratzenberger at ratzenbergerj@gao.gov or me at heckerj@gao.gov. Alternatively, we may be reached at (202) 512-2834. Key

contributors to this report were Helen Desaulniers, Richard Jorgenson, Sara Moessbauer, James Ratzenberger, and Edward Warner.

Sincerely yours,

JayEtta Z. Hecker

Director, Physical Infrastructure Issues

# Appendix I: Financial Performance of Amtrak's Routes, Fiscal Year 2001

The financial performance of Amtrak routes ranged from an operating profit of \$51.3 million on the Metroliner/Acela Express to an operating loss of \$71.5 million on the Northeast Direct.

Table 2: Operating Profit (Loss), Operating Ratio, and Profit (Loss) per Passenger of Each Amtrak Route, Fiscal Year 2001, Ranked by Profit (Loss)

Route	State support (\$ millions)	Total revenue <sup>a</sup> (\$ millions)	Total cost <sup>b</sup> (\$ millions)	Profit (loss) (\$ millions)	Operating ratio°(%)	Profit (loss) per passenger (\$)
Metroliner/Acela Express	0	\$271.2	\$220.0	\$51.3	0.8	\$19
Heartland Flyer	4.6	5.8	5.2	0.6	0.9	10
Vermonter	1.5	5.8	6.4	-0.6	1.1	-9
Adirondack	2.7	7.1	7.8	-0.7	1.1	-8
Piedmont	3.3	4.0	5.0	-1.0	1.3	-20
Lake Country Limited	0	0.1	2.0	-1.9	36.9	-1,208
Kansas City-St. Louis	6.1	10.5	12.6	-2.1	1.2	-12
Ethan Allen Express	0.2	2.2	4.5	-2.2	2.0	-53
Pere Marquette	2.2	4.1	6.6	-2.5	1.6	-43
Illinois Zephyr	2.8	5.5	8.2	-2.7	1.5	-27
International	3.7	7.1	10.0	-2.9	1.4	-27
Illini	2.4	6.0	9.1	-3.1	1.5	-30
Carolinian	2.7	16.2	20.2	-4.0	1.1	-16
Capitols	18.4	30.2	34.6	-4.4	1.2	-4
Kentucky Cardinal	0	1.4	7.6	-6.2	5.4	-212
Cascades	16.3	31.8	38.1	-6.3	1.2	-11
San Joaquins	19.5	43.0	52.0	-9.0	1.2	-13
Auto Train	0	54.6	66.4	-11.8	1.2	-55
Cardinal	0	4.4	17.1	-12.6	3.9	-187
Hiawathas	5.1	12.6	26.0	-13.3	2.1	-31
Chicago-St. Louis	3.8	11.5	27.7	-16.1	2.4	-64
Keystone and Clocker service	2.8	45.2	65.6	-20.4	1.5	-7
Silver Meteor	0	28.5	49.8	-21.2	1.7	-84
Chicago-Pontiac	0	9.7	30.9	-21.2	3.2	-72
City of New Orleans	0	15.3	39.1	-23.7	2.6	-127
Capitol Limited	0	21.4	45.6	-24.2	2.1	-157
Pacific Surfliner	21.3	52.5	78.6	-26.1	1.5	-15
Pennsylvanian	0	9.2	35.4	-26.3	3.9	-292
Silver Palm	0	28.3	57.0	-28.7	2.0	-131
Silver Star	0	30.7	60.8	-30.0	2.0	-113
Three Rivers	0	26.5	59.3	-32.8	2.2	-245
Crescent	0	30.8	65.8	-35.0	2.1	-132
Empire Service/ Maple Leaf	0	52.5	89.0	-36.5	1.7	-28
Sunset Limited	0	17.7	56.1	-38.3	3.2	-347
Texas Eagle	0	22.4	60.7	-38.4	2.7	-258

Route	State support (\$ millions)	Total revenue <sup>a</sup> (\$ millions)	Total cost <sup>b</sup> (\$ millions)	Profit (loss) (\$ millions)	Operating ratio°(%)	Profit (loss) per passenger (\$)
Lake Shore Limited	0	30.6	72.4	-41.9	2.4	-143
Empire Builder	0	53.3	98.7	-45.4	1.9	-114
Coast Starlight	0	41.2	87.1	-45.9	2.1	-93
California Zephyr	0	51.7	103.7	-52.0	2.0	-144
Southwest Chief	0	65.9	128.7	-62.8	2.0	-237
Northeast Direct/ Acela Regional/ Twilight Shoreliner	0	328.6	400.1	-71.5	1.2	-11
Total/average	\$119.2	\$1497.1	\$2271.3	-\$774.2	1.5°	-\$33.0°

#### Notes:

Includes only the revenue and expenses associated with providing core intercity passenger rail service along the route. These core services are passenger-related services, mail and express, other transportation services, and states' payments supporting certain routes. Excludes \$4.3 million in unallocated train labor costs, which, according to Amtrak, are not clearly identified with specific routes but are incurred to provide train service. Excludes depreciation in order to show the cash results by route. Does not include special trains. All dollar figures are rounded to the nearest hundred thousand dollars, except profit (loss) per passenger, which is rounded to the nearest dollar.

Several of the amounts, including the overall loss, differ from those that Amtrak reported to Congress. Amtrak included profits from non-core business (such as commuter contract services) in the results that it reported to Congress. We have excluded these amounts because such costs are unrelated to route financial performance.

blincludes train, route, and system costs. Train costs include such factors as crew salaries, fuel and power costs, and payments to freight railroads for the use of their tracks. Route costs include such factors as maintenance for Amtrak-owned stations. System costs include such factors as staff salaries, rent, and associated expenses for corporate and strategic business unit headquarters operations.

Source: GAO's analysis of Amtrak's data.

<sup>\*</sup>Includes state support.

<sup>&</sup>lt;sup>c</sup>Operating ratio is total expenses divided by total revenues.

<sup>&</sup>quot;Represents a weighted average.

# Appendix II: Amtrak Route Actions, January 1995 Through December 2001

Year/Route	Action
1995	Action
Cardinal	Truncated, 1995
Broadway Limited.	Eliminated, 1995
Atlantic City Express	Eliminated, 1995
Palmetto	Eliminated, 1995
Hoosier State	Frequency reduced, 1995; eliminated, 1995
Lake Cities	Truncated, 1995
Texas Eagle	Truncated, 1995, 1997; extended 1998; frequency increased, 1998, 2000; frequency decreased, 2001
Gulf Breeze	Frequency reduced, 1995; eliminated, 1995
Desert Wind	Frequency reduced, 1995; eliminated, 1997
Empire Builder	Frequency reduced, 1995; frequency restored, 1997
Crescent	Frequency reduced, 1995; frequency restored, 1996
City of New Orleans	Frequency reduced, 1995; frequency restored, 1997
California Zephyr	Frequency reduced, 1995; frequency restored, 1997
Three Rivers	Launched, 1995
Metroliners <sup>a</sup>	Frequency reduced, 1995, 1996
Northeast Direct <sup>a</sup>	Frequency reduced, 1995
Empire <sup>a</sup> (New York City-Albany)	Frequency reduced, 1995; frequency increased, 1998, 1999
Empire <sup>a</sup> (Albany-Buffalo)	Frequency reduced, 1995; frequency increased, 1998
Boston-Springfield, Massachusetts°	Eliminated, 1995; restored, 1996
Hiawatha	Frequency reduced, 1995
New York City-Newport News, Virginia	Frequency reduced, 1995, eliminated after 1997
Pere Marquette	Frequency reduced, 1995; restored in 1996
Mule (St. Louis-Kansas City)	Eliminated, 1995; restored later in 1995
Vermonter	Launched, 1995
Montrealer	Eliminated, 1995
Niagara Rainbow	Eliminated, 1995
Keystone <sup>a</sup>	Frequency reduced, 1995
The Loop	Frequency reduced, 1995, eliminated, 1996
San Diegan	Frequency reduced, 1995; frequency restored, 1997; frequency increased, 1998
Mount Baker International	Launched, 1995
Piedmont	Launched, 1995
1996	
Sunset Limited	Truncated, 1996, extended, 1997
Ethan Allen	Launched, 1996, extended, 1998
Silver Palm	Launched, 1996
Gulf Coast Limited	Launched, 1996; eliminated, 1997
1997	
Pioneer	Eliminated, 1997
Night Owl	Eliminated, 1997
Detroit-Pontiac	Frequency reduced, 1997
Twilight Shoreliner <sup>a</sup>	Launched, 1997

# Appendix II: Amtrak Route Actions, January 1995 Through December 2001

Year/Route	Action	
1998		
Capitols	Frequency increased, 1998, frequency increased, 1999, 2000, 2001; truncated 2000	
Pennsylvanian	Launched, 1998	
Pacific Northwest Corridorb	Frequency increased, 1998	
1999		
Kentucky Cardinal	Launched, 1999; extended, 2001	
Heartland Flyer	Launched, 1999	
San Jaoquin	Frequency increased, 1999	
Cascades	Frequency increased, 1999, 2000	
2000		
Pacific Surfliner	Frequency increased, 2000, 2001	
Lake Country Limited	Launched, 2000; eliminated, 2001	
Acela (regional/express)	Launched, 2000; frequency increased, 2001	
2001		
Downeaster	Launched, 2001	

<sup>&</sup>lt;sup>a</sup>Now part of Acela regional service.

Source: Amtrak.

<sup>&</sup>lt;sup>b</sup>Now part of Cascades service.

 $<sup>^\</sup>circ$ This service is shown separately so as to not distort route and service actions affecting the Boston-Washington, D.C., spine of the Northeast Direct route.

# Appendix III: Planned Route and Service Actions Included in the Network Growth Strategy

The following are the planned route and service actions included in the Network Growth Strategy announced by Amtrak in February 2000.

Name	Description
Hiawatha	Extend Hiawatha service from Chicago-Milwaukee, Wisconsin, to Fond du Lac, Wisconsin.
Lake Cities	Extend Chicago-Michigan service to Toledo, Ohio.
Lake Country Limited	New service between Chicago and Janesville, Wisconsin.
Skyline (Manhattan Limited)	New service between New York City and Chicago via Philadelphia and Cleveland.
Silver Meteor	Extend current service from New York City to Boston.
Crescent Star	Split Crescent service in Meridian, Mississippi, to provide new service from Meridian to Dallas/Ft. Worth.
Aztec Eagle	New service between San Antonio, Texas, and Monterrey, Mexico.
Texas Eagle	Increase service to daily from 4 times per week.
Twilight Limited	New service between New York City and Chicago through upstate New York and Canada.
Luxury Transcontinental	New luxury transcontinental service (origin and destination to be determined).
International	Reroute existing train service between Battle Creek, Michigan, and Toronto, Canada.
Hawkeye	New service between Chicago and Des Moines, Iowa.
Silver Service	Various reroutes of Amtrak Silver service trains in Florida, including new service from Jacksonville to Miami via the Florida East Coast Railway.
Sunset Limited	Reroute train in Texas from El Paso to San Antonio to El Paso to Ft. Worth via Abilene.
Kentucky Cardinal <sup>a</sup>	Extend service from Jeffersonville, Indiana, to Louisville, Kentucky.

<sup>&</sup>lt;sup>a</sup>The extension of the Kentucky Cardinal to Louisville was implemented in December 2001.

Source: GAO's analysis of Amtrak's data.

# Appendix IV: Amtrak's Process for Evaluating Route and Service Proposals

Amtrak officials told us that route and service decisions primarily focus on whether the increased operating revenues from an action are expected to exceed the direct costs. Increased revenues can arise from adding passengers on the route, adding passengers on the route who can then transfer to other routes and vice versa (called interconnectivity) and from hauling mail and express. While Amtrak recognizes early in its planning process that it will incur costs for capital expenditures (e.g., to acquire equipment and facilities and to finance needed track and signal improvements) and, to a lesser extent, state financial support, it typically does not address these needs until after it has decided to implement a route or service action.

## Amtrak's Consideration of Operating Revenue and Direct Costs

Ideas for route and service actions are either generated internally or from those outside Amtrak seeking additional service. To provide a quick assessment of an idea's reasonability, Amtrak informally examines issues such as the number and type of equipment (e.g., cars and locomotives) that might be needed, where the train might stop, and possible train schedules. If a proposal appears promising, Amtrak begins a more formal evaluation process. First, it estimates potential ridership, from which it derives passenger-related revenue estimates. To do so, Amtrak uses one of two models, depending on whether the action involves a long-distance route or a shorter-distance route serving a transportation corridor (such as that between Washington, D.C., and New York City). Of the two models, only the model for transportation corridors can assess the potential market share that a proposed route action will attract from among a corridor's various transportation modes. For example, this model can estimate the impact of a shift from rail ridership to automobile usage prompted by a decline in gas prices. The ridership projections are, in turn, used to estimate a route's passenger-related unit costs and operating costs. An Amtrak official said that cost estimates often increase later in the evaluation process as more amenities are added to a proposed service as a means to attract more riders.

After it completes its initial assessments, Amtrak uses its market-based approach to model the expected financial impact of the route or service action. It models the proposed route and service action individually and as part of the whole route network. In some cases, Amtrak will model several variations of a proposed route action to see if one is more financially viable than others.

Amtrak also estimates potential mail and express revenues associated with proposed route actions. Mail revenue estimates are largely based on contracts Amtrak has with the U.S. Postal Service, discussions with U.S. Postal Service officials, and U.S. Postal Service projections. Estimating express revenue is somewhat more difficult. According to Amtrak, until recently, it estimated express revenue largely on the basis of an analysis of a database of commodities being shipped nationally. Amtrak estimated the portion of this business that it thought it could obtain. An Amtrak official said that it now focuses more on determining existing customers' shipping needs, assessing these needs in light of current economic trends, and evaluating Amtrak's ability to meet these needs given existing train capacity. Amtrak relies on its mail and express unit to estimate mail and express costs. However, Amtrak officials told us identifying these costs has been difficult since Amtrak did not formerly identify these costs separately but rather incorporated them into other business units. Amtrak currently has a project under way to identify the specific costs of its mail and express business.

When Amtrak management wants to proceed with a route action, it either seeks the approval of its board of directors or directs the affected business unit to implement the action. Amtrak policy requires board approval to initiate service on new routes or to discontinue service on routes. Amtrak said its strategic business units have the authority to make minor changes in the schedules and frequencies of their train service.

## Consideration of Capital Costs and Other Financial Issues

Amtrak officials told us that the company also considers the cost of capital improvements that may be associated with route actions, the fees that freight railroads will charge for access to their tracks, and the likelihood states might be interested in financially supporting the routes. While Amtrak told us that it recognizes early in its planning process that capital costs may be incurred for routes other than its Northeast Corridor, it does not formally consider these costs under the market-based approach until after it decides to implement a route or service change. Amtrak officials said that they do not consider these costs earlier because Amtrak's lack of investment capital would preclude further consideration of such proposals. Amtrak's capital funds most often come from federal assistance and from freight railroads and states that might agree to contribute funds.

<sup>&</sup>lt;sup>1</sup>The strategic business units are Intercity, Amtrak West, and Northeast Corridor. The Mail and Express unit became an independent business unit in 2001.

Appendix IV: Amtrak's Process for Evaluating Route and Service Proposals

Amtrak estimates track access payments based on operating agreements with freight railroads, or in the case of railroads it has not dealt with before, it is assumed access fees will not vary significantly from national averages. Obtaining state financial support for routes generally varies depending on the length of the route. An Amtrak official said the corporation aggressively pursues state support on short-distance, commuter-like routes. In fact, he said states often approach Amtrak about initiating or expanding this type of service on their own. However, on longer distance routes that go through many states, most states are not interested in providing financial support and Amtrak must assume the financial responsibility itself. In 2001, states provided financial support for 18 of Amtrak's 43 routes. This support ranged from about \$200,000 on the Ethan Allen Express route (service between New York and Vermont) to about \$21 million on the Pacific Surfliner (service within California).

# Appendix V: Market-Based Network Analysis Models Used to Estimate Ridership, Revenues, and Costs

The market-based framework includes a set of models used to predict changes in ridership, revenues, and costs likely to result from a planned restructuring of Amtrak's route system or a variation in service levels on existing routes. A series of demand models estimate ridership and passenger-related revenues in response to variation in the stations served by each route, train departure frequencies or schedules, travel times, and fare structures. Then a series of financial models translate operating statistics that are based on the type of equipment and level of operations (e.g., level of onboard staffing) required into operating expenses. For high-speed rail scenarios, a capital cost model estimates the capital that is likely to be required (e.g., upgrade to track and additional rolling stock) to make changes in service.<sup>1</sup>

## Models Used to Estimate Ridership and Revenue

Amtrak uses separate models to estimate ridership and revenue for shortdistance intercity routes (regional networks where frequent, higher-speed services are planned, called "corridors") and long-distance intercity routes (typically at least 500 miles long). For short-distance intercity routes, the market-based approach includes a model specifically for the Northeast Corridor (Boston-Washington), as well as a generic model to predict ridership and revenue in corridors located in other regions. Each of the corridor models is designed to be a mode-split model. That is, these models predict the share of travel likely to take place by automobile, air, and rail, based on the projected level of total traffic for each market. Amtrak typically estimates total traffic between two areas on the basis of expected demographic and economic growth in the areas making up the corridor. Then it estimates the market shares for each mode on the basis of the costs of travelling by each mode and the level of service it provides in the corridor (departure frequency and total travel time). Finally, it uses the estimated ridership with the assumed fare structures to estimate the passenger-related revenue that would result from a proposed route.

The long-distance demand model consists of two components. The first component predicts the total number of rail passengers traveling between each station-pair and the second component predicts the class of service (mainly sleeper versus coach). The ridership estimate is based on such factors as population and employment in the surrounding areas. Unlike the

<sup>&</sup>lt;sup>1</sup>Ten high-speed rail corridors (with train speeds of at least 90 miles per hour) have been designated either by legislation or by the Department of Transportation. These corridors are in various stages of planning. An eleventh corridor is Amtrak's Northeast Corridor

Appendix V: Market-Based Network Analysis Models Used to Estimate Ridership, Revenues, and Costs

corridor demand models, this is not a mode-split model, but rather a direct rail model. As such, the model does not directly assess the amount of total traffic in the market or the amount of traffic that may be captured by alternative modes. Instead, it employs historic data from a sample of markets to assess the relationships between rail ridership levels and such factors as population, employment, travel time, and level of rail service. Amtrak then uses these estimated associations to estimate the level of rail traffic in a new market. After projecting the rail ridership, Amtrak uses the second component to estimate what fraction of passengers will choose each of four classes of service, based on such factors as frequency and timing of trains and the fares charged for each service level. Finally, Amtrak uses the projected levels of ridership and class of service to estimate the passenger-related revenue that would result from a proposed route.

# Models Used to Estimate Costs

The market-based approach includes operating and, in the case of high-speed rail scenarios, capital cost models, to estimate the likely impact on Amtrak's expenses from planned changes to its network. These models translate operating statistics into operating or "direct" expenses. The operating statistics are developed based on ridership patterns, schedule, train makeup, and staffing data for an individual route into estimates of the equipment fleet and train crew requirements, as well as the number of monthly train-miles. The operating model applies detailed unit cost to predict the changes in operating expenses for the route.

The capital cost model estimates the capital investments necessary to upgrade existing track or construct new rights-of-way for routes in which Amtrak is considering improving travel times, increasing frequency, or introducing new services. The model also estimates costs for acquiring new rolling stock and other equipment as necessary. The requirements for alternative levels of service were developed from engineering studies of facility and equipment requirements necessary to upgrade a sample of route segments. The model also makes use of data on unit cost factors required for upgrading facilities and equipment. These data are based on past experience with upgrades in several markets. Using the estimated facility and/or equipment needs and the data on unit costs, the model calculates an estimate of required capital. According to Amtrak, this model is currently applied only to high-speed rail corridors. It is not used to determine potential capital costs on non-high-speed rail corridors.

# Appendix VI: Comments from the National Railroad Passenger Corporation

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

NATIONAL RAILRUAD PASSENGER CORPORATION

of Manual Collins of the Collins



March 15, 2002

Ms. JayEtta Z. Hecker Director, Physical Infrastructure Issues U.S. General Accounting Office Washington, DC 20548

Dear Ms. Hecker:

Set forth below are Amtrak's comments on GAO Report No. GAO-02-398, entitled "Intercity Passenger Rail: Amtrak Needs to Improve Its Evaluation of Route and Service Proposals."

The major theme of this report is that Amtrak should have delayed in communicating to Congress the route and service changes it proposed in February 2000, as part of its "Network Growth Strategy" ("NGS"), to allow time for additional analyses and negotiations with freight railroads. GAO appears to believe that, if Amtrak had followed this approach, it would have proposed to add considerably fewer new services but would have been more successful in implementing its proposals.

In the past five years, Amtrak and GAO have worked closely on the development of over a dozen reports. Amtrak has grown to appreciate the work of GAO's staff, particularly their careful attention to detail and their receptivity to consultation, and we have generally expressed a high level of agreement with GAO's conclusions. In this instance, however, Amtrak disagrees with some of the findings and observations in the report.

#### **The Network Growth Strategy**

The NGS was a proposal for restructuring and expanding Amtrak's route system in a manner that would enhance Amtrak's market reach and generate additional net revenues. It also represented the first comprehensive analysis of Amtrak's national network, and the first attempt to apply rigorous financial analyses and modeling techniques to its design.

<sup>&</sup>lt;sup>1</sup> "Report to Congress: The Market Based Network Analysis of the National Railroad Passenger Corporation", February 28, 2000 ("NGS Report").



Before the NGS, decisions regarding changes in Amtrak's route system and long-distance train frequencies ("route and service changes") were not based upon quantitative analyses of net financial impacts. Rather, the addition of new routes typically resulted from Congressional directives, and the elimination of routes was constrained by the statutory requirement that Amtrak operate a "basic system" of routes designated by DOT.

Not surprisingly, perhaps, when the "basic system" requirement was eliminated in 1997, at the same time that Amtrak was given a statutory mandate to achieve "operational self-sufficiency" by December 2002, Amtrak lacked the tools it needed to analyze the financial impacts of route and service changes. As DOT's Inspector General noted in his 1998 "Independent Assessment of Amtrak's Financial Needs", DOT Report No. TR-1999-027, the only available tool for calculating costs -- Amtrak's "Route Profitability System" ("RPS") -- "is not appropriate for assessing changes in specific routes and services". Because it is based upon "fully allocated costs . . . RPS cannot tell Amtrak which costs would change as a result of service changes."<sup>2</sup>

The NGS Report, reviewed by the GAO, was the first product of the Market Based Network Analysis ("MBNA") Project that Amtrak initiated in October 1998 to address these deficiencies. The timing of the issuance of the NGS Report, and the timetable for implementing its proposals, was driven by two deadlines. First, route and service changes with positive financial impacts would have to be implemented quickly if they were to contribute to Amtrak's efforts to meet the statutory self-sufficiency deadline. Second, the May 1999 report of the Senate Appropriations Committee (Senate Report 106-55) directed Amtrak to report the MBNA Project's conclusions regarding route and service changes to the Appropriations Committee prior to the issuance of Amtrak's FY2000 Strategic Business Plan.

In developing the sophisticated MBNA models that were used to determine the net impacts of route and service changes, Amtrak drew upon extensive data on the costs and revenues associated with the operation of its passenger trains, supplemented by survey research to quantify passenger demand and "interconnectivity" (the impact of changes in one service on connecting services). However, for express -- the expedited transportation of premium shipments on Amtrak's passenger trains -- reliable historical or cost data was simply not available when the MBNA Project was initiated in 1998. Amtrak's express initiative had only commenced in the previous year. Therefore, the express revenue and cost assumptions utilized in the MBNA Project were, by necessity, based upon projections and estimates derived from Amtrak's very limited experience.

See comment 1.

See comment 2.

<sup>&</sup>lt;sup>2</sup> In light of the Inspector General's findings regarding RPS, and the fact that RPS was not utilized to develop the NGS proposals, Amtrak is puzzled by the inclusion in the report of a table that shows "Financial Performance of Amtrak's Routes" based upon RPS.



#### Amtrak's Comments on the GAO Report

Although the report faults Amtrak for failing to perform more rigorous analyses, it barely mentions the MBNA models, which are discussed only in a two-paragraph appendix on the very last page. Instead, the report claims that Amtrak did not adequately consult with freight railroads before releasing the NGS Report, and therefore had unrealistic expectations as to how they would react. It contends that Amtrak should have estimated the capital costs associated with each potential route and service change before issuing the NGS Report, and factored into its decisions likely capital contributions from specific states. The report also states that Amtrak overestimated revenues and underestimated costs associated with the carriage of express on new routes and services proposed in the NGS Report.

As discussed in detail below, Amtrak disagrees with a number of the report's conclusions regarding two of the principal issues it addresses: freight railroad consultations and the projection of capital costs. As for express, the report acknowledges that Amtrak no longer uses the (best available at the time) methodologies that prompted GAO's criticisms.

#### I. Consultations with Freight Railroads

Before Amtrak issued the NGS Report on February 28, 2000, it met at least twice with virtually all of the major freight railroads to discuss its NGS proposals, first at the President/CEO level and then in a follow-up meeting where Amtrak made customized presentations to senior railroad personnel. Nonetheless, the GAO asserts that, before adopting the NGS proposals and providing the NGS Report to Congress, Amtrak should have engaged in more extensive "consultations" with these railroads.

When the NGS Report was issued, Amtrak faced two pressing deadlines: one for delivering the report to Congress, and another for achieving operational self-sufficiency (to which the NGS proposals were expected to contribute). As discussed below, Amtrak also needed to begin developing, as quickly as possible, public support for NGS proposals that would require state and local funding. These considerations made it necessary for Amtrak to act with expediency. Therefore, while advance

<sup>&</sup>lt;sup>3</sup> The MBNA models were extensively analyzed by DOT's Inspector General, who received expert assistance from the Volpe National Transportation Center. In his "2000 Assessment of Amtrak's Financial Performance and Requirements", Report No. CR-2000-121, DOT's Inspector General concluded (at p. 30) that "[t]he MBNA models will generate more accurate projections of the revenue and expense impacts from fare and service changes than have previously been available to support Amtrak's decision-making."



discussions with freight railroads were appropriate and did occur, it was not practical for Amtrak to delay the release of its NGS proposals while it engaged in lengthy "consultations" with each of the 16 affected freight railroads to ensure that it would be able to implement each of the 15 proposals.

Amtrak does not agree with the GAO's assumption that the implementation of route and service changes on freight railroads' lines, in every case, requires lengthy negotiations with the host freight railroad. Frankly, there is no "model" for how and on what timetable such issues are resolved.

In many cases, Amtrak has been able to implement significant route and service changes fairly quickly. For example, one of the NGS-proposed changes – increasing the frequency of the St. Louis-to-San Antonio "Texas Eagle" from tri-weekly to daily – was implemented on May 27, 2000, just three months after issuance of the NGS Report, even though it required negotiations with two major freight railroads (BNSF and UP) regarding additional Amtrak operations on more than 1000 miles of their tracks. The NGS-proposed Chicago-to-Janesville, WI service – which involved operations over three different railroads – was also implemented in the Spring of 2000. Similarly, while the report implies that Amtrak had no reason to expect Norfolk Southern to agree to the operation of the Harrisburg-to-Chicago segment of the proposed "Skyline (Connection)", Amtrak had implemented a similar additional service – an extension of the "Pennsylvanian" – over the same route a year before issuance of the NGS, and just eight months after notifying Norfolk Southern's predecessor of its desire to do so. 4

The principal example that the report cites to illustrate its assertions that Amtrak did not adequately consult with freight railroads involves the proposed Meridian, MS-to-Dallas/Fort Worth "Crescent Star". However, the delay in the implementation of that train is not due to freight railroad opposition. To the contrary, the "Crescent Star" is an example of how Amtrak was able, in cooperation with a freight railroad, to develop a "win/win" solution to funding capital investment needs.

See comment 3.

See comment 4.

See comment 5.

See comment 6.

<sup>&</sup>lt;sup>4</sup> It also bears noting that the Rail Passenger Service Act contemplates that issues regarding Amtrak route and service changes will be resolved quickly. The Act's provision (49 U.S.C. 24308(a)) that gives Amtrak a legal remedy before the Surface Transportation Board ("STB") should a freight railroad reject Amtrak's request to initiate a new route requires the STB to render its decision as to whether Amtrak should receive access within 90 days.

## Appendix VI: Comments from the National Railroad Passenger Corporation



Ms. JayEtta Z. Hecker March 15, 2002 Page 5

- While the report highlights complaints about the "Crescent Star" by Norfolk Southern and Union Pacific, Norfolk Southern's only involvement with the "Crescent Star" is at the point in Meridian where the new train would diverge from the existing "Crescent" route, and Union Pacific owns only a few miles of the train's planned route in the Dallas area. The primary railroad involved is the Kansas City Southern, which owns the only rail line between Meridian, MS, and Shreveport, LA, and one of the two parallel rail lines between Shreveport and the Dallas/Fort Worth area. Kansas City Southern, to which it appears GAO has not spoken, has strongly supported Amtrak's proposal.
- The NGS Report (p. 21) indicated that, west of Shreveport, the train would operate over either Kansas City Southern or Union Pacific, and Amtrak approached both railroads. When Union Pacific sought a very large capital contribution, Amtrak opted to route the "Crescent Star" over Kansas City Southern. We submit that this is not evidence of flaws in Amtrak's decisionmaking, but rather a prudent business decision.
- Implementation of the "Crescent Star" has been delayed by controversial regulations issued last year that impose prohibitive collateral and other requirements on the RRIF loan program with which track and signal improvements on the train's route were to be financed. Key members of Congress have introduced legislation that would overturn these requirements.

In those instances where Amtrak was unsuccessful in addressing freight railroads' concerns about its NGS proposals, the GAO's focus on Amtrak's timing and tactics ignores more fundamental issues. The NGS may have been the last real attempt to restructure and (modestly) expand the rail passenger network in the United States without substantial expenditures of federal funds. The growing capacity constraints on many key rail lines mean that freight railroads can, not infrequently, demand large infusions of capital from passenger train operators to accommodate additional trains.

In the upcoming debate over Amtrak's reauthorization and proposals for the "privatization" of intercity rail passenger service, one of the most critical issues will be the extent to which federal funding is required to support intercity rail passenger service. Some who propose changes in Amtrak's responsibilities and structure have asserted that the need for federal funding has been overstated, and that states, freight railroads, and other parties would be prepared in the near term to provide significant additional capital funding for infrastructure improvements that would benefit intercity rail passenger service. By contrast, the NGS experience shows that restructuring passenger train operations on freight railroad-owned lines without access to significant federal capital funding has grown increasingly difficult, given the capacity constraints on some lines and the limited availability of alternative sources of funding.



That reality, which is not addressed in the report, explains many of the hurdles Amtrak encountered in implementing the NGS proposals.

#### II. Capital Requirements

The report criticizes Amtrak for failing to quantify the capital investments required for each NGS-proposed route or service change, and for failing to weigh, in deciding what route and service changes to propose, the likelihood that particular states would provide capital funding. Both criticisms are unfounded.

With regard to quantifying capital needs, the infrastructure investment required to add one or two train frequencies to a rail line varies considerably and is not easily quantifiable. In many cases, Amtrak has been able to initiate significant service changes without any capital investment, often by making minor modifications in its plans to address the initial objections that freight railroads almost invariably raise. Recent examples include the "Pennsylvanian" extension and the additional "Texas Eagle" frequencies discussed above.

Where infrastructure investment would likely be needed, the development of reliable cost estimates before Amtrak communicated its proposals to Congress would have required expensive and time consuming studies of the physical characteristics of each line, and of the number, type and schedules of the trains that operate over it. This effort would, of course, have significantly delayed issuance of the NGS Report.

Moreover, as Amtrak explained to GAO – in a statement that appears, completely out-of-context, in the report – estimation of capital expenditures would have served no purpose even if Amtrak had unlimited time and resources. The purpose of the NGS Project was to identify all changes in Amtrak's routes and services that would more than cover their operating costs, and thus reduce Amtrak's operating losses and contribute to the statutory objective of self-sufficiency. If a potential route or service change passed muster under this test, it was in Amtrak's interest to propose it, even if it appeared likely to require capital investment, and to then pursue various means of funding that investment.

 In some cases, Amtrak expected that states and localities would fund capital expenditures associated with NGS proposals. As discussed below, this expectation was realized with regard to two NGS proposals.

See comment 7.

See comment 8.



- In other cases, Amtrak reasonably anticipated that the expansion of its express-carrying capacity that would result from implementation of the NGS would create opportunities for mutually beneficial "gainsharing" arrangements, under which Amtrak would share express revenues in return for agreements that Amtrak could implement NGS proposals. Months of negotiations with two of the four largest freight railroads, which involved six meetings with one railroad and nearly a dozen meetings with the other, demonstrate that there was significant freight railroad interest in this proposal. However, the negotiations ultimately stalemated, though not on the issue of implementation, but rather on price.
- Finally, Amtrak could provide capital contributions in amounts negotiated with the host freight railroad, either by investing federally appropriated capital funds or through innovative funding mechanisms (such as the RRIF loan approach that Amtrak developed in conjunction with Kansas City Southern). Only under this scenario would it be necessary for Amtrak to negotiate a level of capital investment with the host freight railroad. However, in those negotiations, the preliminary estimates of required capital expenditures that GAO suggests Amtrak should have developed would, inevitably, have served as a floor on what the freight railroad would expect Amtrak to pay, even if better information suggested that those estimates were overstated. Clearly, from a bargaining perspective, that would not have been in Amtrak's interest.

With regard to states, the report claims that the restructuring of Amtrak's services in Florida was delayed by Amtrak's failure to ascertain, before issuance of the NGS Report, what level of capital funding Florida might provide. To the contrary, the state funding required for the Florida restructuring would never have materialized if Amtrak had followed GAO's suggested approach.

When Amtrak proposed the very ambitious Florida restructuring in the NGS Report, it appeared unlikely that the state would provide the significant capital funding required. However, Amtrak's announcement of its proposal created a groundswell of support among local communities that would gain Amtrak service, and their efforts to convince Florida's Governor and Department of Transportation to change their positions and support the necessary state funding were recently successful.<sup>5</sup>

See comment 9.

See comment 10.

See comment 11.

Contrary to the assertion in the GAO report, there is no inconsistency between Amtrak's and Florida's expectations regarding Amtrak's contribution to the Florida restructuring. The \$61 million in state funds referenced in the report will cover virtually all improvements to the affected rail lines (with FEC funding the remainder), as well as the state's share of the costs of constructing stations (which will be matched by the local communities). Amtrak is not contributing money to third parties because it will be paying directly the capital costs it will cover (for improvements at Amtrak-owned facilities and to Amtrak-owned cars and locomotives, and for certain start-up



Similarly, the NGS proposal to extend the then recently-instituted "Kentucky Cardinal" to Louisville, KY prompted the City of Louisville to allocate \$300,000 in capital funds for this purpose, which Amtrak agreed to match. Service to downtown Louisville commenced in December of last year, and discussions are underway about a further extension of the service to Nashville. Here again, the necessary funding materialized only after – and indeed, only because – Amtrak publicized its proposal.

#### III. Express Revenue and Cost Projections

The GAO is correct in stating that Amtrak overestimated the revenues and underestimated the costs attributable to handling additional express traffic on NGS-proposed trains. As discussed above, at the time the NGS Project was initiated, Amtrak's express initiative was in its infancy, and very little data on demand and costs was available. However, as the GAO notes, once it became apparent that net revenues from express had been overestimated, Amtrak modified its projections, which led to a decision not to initiate some of the NGS-proposed services.

The report acknowledges that, since the NGS Report was issued, Amtrak has made major changes in the management of its express operation, and in how it projects demand for and tracks costs of its express services. More specifically:

- (i) Amtrak has hired new senior managers in the mail and express group (including the current head of that group) who have substantial experience in premium cargo transportation, and a financial professional with 15 years experience to serve as the group's Chief Financial Officer;
- (ii) Amtrak has placed mail and express in a separate business unit with its own financial statements (developed on the same basis as the financial statements of Amtrak's other business units) and a new accounting structure to accurately track costs;
- (iii) Amtrak has adopted more reliable means for projecting express revenues and costs that are based upon the experience that Amtrak has gained in this business since the MBNA Project was initiated more than three years ago; and
- (iv) Amtrak has also completed the time and motion studies at major terminals that are noted in the report.



Acting Vice Pro Government A

Amtrak believes that these actions address the issues regarding express revenues and costs that the report raises.

#### CONCLUSION

Amtrak believes that the approach it followed in developing the NGS route and service change proposals was both reasonable and necessary. The NGS Report was not merely an action plan based upon rigorous financial analysis. It was also a vision of how Amtrak's national network could be reshaped so as to extend its reach and reduce operating losses, but without significant federal capital investment and with a statutory deadline for "operational self-sufficiency" looming just ahead. While the GAO criticizes Amtrak for failing to achieve all of its vision, we believe that Amtrak should not be faulted for pursuing an innovative approach to reconciling these conflicting objectives.

See comment 12.

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The following is our evaluation of aspects of Amtrak's comments on our draft report.

#### **GAO's Evaluation**

- 1. We agree with Amtrak's statement that a Senate committee report directed it to report on its conclusions regarding route and service changes before Amtrak issued its fiscal year 2000 strategic business plan. However, nothing in the Senate report required Amtrak to issue its strategic business plan by a certain date or earlier than it would have done otherwise. As such, the Senate report language did not create the sense of urgency that Amtrak implies.
- 2. Amtrak questioned our including a list of route profits and losses in appendix I of the draft report because the route profitability system used to generate these results does not produce accurate information for making route decisions. We are not suggesting that the route profitability statistics should have been used in making Network Growth Strategy decisions. We are also not suggesting that they should be used, by themselves, in making future route decisions. Other metrics should also be employed. However, the fact that Amtrak loses money on nearly every single route that it operates (for example, 20 of Amtrak's 43 routes lost more than \$20 million in 2001, even after including state support) was the basis for Amtrak deciding to contract routes in 1995 and expand them in 1998. As such, this route profitability information is contextually important in Amtrak's quest to improve its financial condition.
- 3. Amtrak interpreted our conclusion on the need for early consultation with freight railroads before it announced its Network Growth Strategy to mean that we were advocating that it should have "engaged in lengthy 'consultations' with each of the affected 16 freight railroads" and conducted "expensive and time consuming studies of the physical characteristics of each line, and of the number, type, and schedules of the trains that operate over it." We did not intend such an interpretation. We agree with Amtrak that some proposed route and service changes might be expected to be easier to implement than others—such as ones that could be expected to have little effect on

<sup>&</sup>lt;sup>1</sup>For a discussion of initial considerations that could guide Congress as it debates the future role of the federal government in supporting intercity passenger rail, see U.S. General Accounting Office, *Intercity Passenger Rail: Congress Faces Critical Decisions in Developing a National Policy*, GAO-02-522T (Washington, D.C.: Apr. 11, 2002).

freight railroads. We also agree with Amtrak that there is no model for how and on what timetable such issues should be resolved. We do not prescribe a level of specificity for these discussions, specific expected outcomes, or uniformity. We believe that discussions with freight railroads should be tailored to the complexity, expected difficulty, and risk associated with each proposed action. As discussed previously, we revised our recommendation to make it more useful to Amtrak.

- 4. Amtrak stated that "in many cases [it] was able to implement significant route and service changes fairly quickly" and cited two examples. In reality, Amtrak has implemented only 3 of the 15 planned route and service actions.
- 5. Amtrak states that our draft report implied that it had no reason to expect Norfolk Southern would agree to the operation of the Skyline service. Amtrak disagreed with our draft report because it had implemented a similar service (an extension of the Pennsylvanian) over the same route about a year before the Network Growth Strategy was issued. Any implication about the potential success or failure in implementing the Skyline service was inadvertent. We have revised our report to state that Norfolk Southern was willing to work with Amtrak to establish this service and had reached agreement on how the train was to be handled. The report states that Amtrak largely cancelled this proposal because it and Norfolk Southern could not agree on compensation for Amtrak's use of Norfolk Southern's tracks.
- Amtrak disagreed with the example we used to illustrate what occurs when early discussions with freight railroads do not occur. Amtrak stated that its Network Growth Strategy contemplated using either Union Pacific or Kansas City Southern tracks and Amtrak approached both railroads and that its decision to re-route the Crescent Star from Union Pacific Railroad to Kansas City Southern tracks represents a prudent business decision rather than a flaw in its decisionmaking. We agree that the Network Growth Strategy provided flexibility in routing and that deciding to re-route the Crescent Star might have been a prudent business decision. However, Amtrak did not learn until spring 2000 that (1) significant capital improvements were required to implement the service, (2) Union Pacific was not willing to share the capital investment costs needed to use this line, and (3) an alternative routing would be required. Since Amtrak planned to implement the Crescent Star in summer 2000, just a few months after it announced the Network Growth Strategy, having early knowledge of significant potential roadblocks would have been useful to Amtrak—for example,

- either in attempting to ameliorate the roadblocks or deciding earlier to concentrate on the alternative Kansas City Southern route. As Amtrak stated in its comments, it needed to implement the Network Growth Strategy quickly to help reduce its need for operating subsidies.
- 7. Amtrak commented that (1) the infrastructure investment required to add one or two train frequencies to a rail line is not easily quantifiable and (2) there are other ways to reach agreements to undertake capital projects other than by allocating costs between parties (e.g., the freight railroad might agree to bear the cost of the project if Amtrak agrees to something else). We agree with Amtrak's statement. However, a recurring theme for Amtrak has been its dearth of capital to improve its service. We believe that it would have been prudent for Amtrak to factor into its decisionmaking the fact that capital issues, for some proposed routes, were crucial to Amtrak's being able to implement the Network Growth Strategy, particularly as it recognized in its comments that "...freight railroads can, not infrequently, demand large infusions of capital from passenger train operators to accommodate additional trains."
- 8. Amtrak states that our discussion of capital funding is out of context because the purpose of the Network Growth Strategy was to identify routes for which revenues would exceed operating costs. Amtrak stated that if a potential route or service change met this test then it made sense to pursue it, even if it was likely to require capital support. We agree with Amtrak that it made sense to pursue routes that were contemplated to make an operating profit even if capital investment would be needed to implement them. We did not intend to suggest that Amtrak should have pursued only route and service expansions that were likely to cover both operating and capital costs. Rather, we believe that, for some routes, capital investment was an important prerequisite to Amtrak being able to implement the routes quickly so that it could obtain the operating profits.
- Amtrak commented that some Network Growth Strategy negotiations with freight railroads were stalemated not on the issue of implementation, but on price. We have revised our report to recognize this.
- 10. Amtrak criticized our suggestion that it should have had preliminary discussions with freight railroads over capital funding issues, saying that it is a poor negotiating technique to approach a freight railroad by telling it how much capital Amtrak is willing to contribute, because

this figure sets a floor for Amtrak's contribution. We agree that there are delicate business issues arising from Amtrak's attempts to get freight railroads to allow it to expand operations over freight railroadowned tracks and that different route and service proposals can raise different and sometimes complex issues. We are not suggesting that Amtrak "give away the store" in these discussions by disclosing in advance how much capital support it might be willing to contribute to the freight railroads. However, as discussed in the report, we believe that it would have been prudent to determine freight railroads' expectations before deciding to implement the plan because freight railroads' cooperation was imperative to the success of the Network Growth Strategy. Without an understanding of whether freight railroads' expectations were similar to Amtrak's—and the expected ease or difficulty in meshing these expectations—Amtrak had little basis to expect that the route and service proposals it made could actually be implemented expeditiously so that they could help reduce Amtrak's operating losses.

- 11. On several bases Amtrak disagreed with our discussion of gaining an early understanding of whether states, such as Florida, might or might not be willing to provide the capital funds that Amtrak expected them to contribute. Because the focus of our work was Amtrak's interaction with freight railroads, we have deleted references to the capital support that Amtrak expected from states such as Florida.
- 12. Amtrak stated that the Network Growth Strategy was not just "...an action plan based on rigorous financial analysis. It was a vision of how Amtrak's national network could be reshaped so as to extend its reach and reduce operating losses..." [emphasis in the original]. Amtrak suggested that we faulted it for pursuing an innovative approach and because it did not achieve "all its vision." We are not criticizing Amtrak for pursuing a route expansion strategy. Rather, our report focuses on the aspects that might have made the vision more successful than it was, although perhaps at a more modest level than Amtrak originally envisioned. Amtrak's Network Growth Strategy ultimately failed because the route system expanded marginally and Amtrak was not able to reduce its operating losses to the extent planned. In our opinion, an important contributor to this failure was Amtrak's inattention to potential implementation problems before it announced a strategy. Attention to potential implementation problems was crucial because, as Amtrak stated, it needed to have the routes implemented quickly so as to reap the financial benefits that would result in a reduction of operating losses. We believe that the recommendation we



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